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Sequence Listing was accepted.

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Reviewer: markspencer

Timestamp: [year=2008; month=6; day=9; hr=10; min=34; sec=31; ms=285;]

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Application No: 10564375 Version No: 2.0

Input Set:

Output Set:

Started: 2008-05-12 12:21:36.709
Finished: 2008-05-12 12:21:47.275
Elapsed: 0 hr(s) 0 min(s) 10 sec(s) 566 ms
Total Warnings: 51
Total Errors: 0
No. of SeqIDs Defined: 58
Actual SeqID Count: 58

Error code	Error Description
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W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)
W 213	Artificial or Unknown found in <213> in SEQ ID (21)
W 213	Artificial or Unknown found in <213> in SEQ ID (22)
W 213	Artificial or Unknown found in <213> in SEQ ID (23)
W 213	Artificial or Unknown found in <213> in SEQ ID (24)
W 213	Artificial or Unknown found in <213> in SEQ ID (25)
W 213	Artificial or Unknown found in <213> in SEQ ID (26)
W 213	Artificial or Unknown found in <213> in SEQ ID (27)

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Output Set:

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Error code	Error Description
	This error has occurred more than 20 times, will not be displayed

SEQUENCE LISTING

<110> Anderson, Annaliesa S.
Kuklin, Nelly
Jansen, Kathrin Ute

<120> POLYPEPTIDES FOR INDUCING A PROTECTIVE
IMMUNE RESPONSE AGAINST STAPHYLOCOCCUS AUREUS

<130> 21349YP

<140> 10564375
<141> 2006-01-12

<150> PCT/US2004/023522
<151> 2004-07-22

<150> 60/489,840
<151> 2003-07-24

<160> 58

<170> FastSEQ for Windows Version 4.0

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<212> PRT
<213> Staphylococcus aureus

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Thr Ser Gln His Gln Ala Gln Ala Ala Glu Asn Thr Asn Thr Ser Asp
35 40 45
Lys Ile Ser Glu Asn Gln Asn Asn Ala Thr Thr Thr Gln Pro Pro
50 55 60
Lys Asp Thr Asn Gln Thr Gln Pro Ala Thr Gln Pro Ala Asn Thr Ala
65 70 75 80
Lys Asn Tyr Pro Ala Ala Asp Glu Ser Leu Lys Asp Ala Ile Lys Asp
85 90 95
Pro Ala Leu Glu Asn Lys Glu His Asp Ile Gly Pro Arg Glu Gln Val
100 105 110
Asn Phe Gln Leu Leu Asp Lys Asn Asn Glu Thr Gln Tyr Tyr His Phe
115 120 125
Phe Ser Ile Lys Asp Pro Ala Asp Val Tyr Tyr Thr Lys Lys Ala
130 135 140
Glu Val Glu Leu Asp Ile Asn Thr Ala Ser Thr Trp Lys Lys Phe Glu
145 150 155 160
Val Tyr Glu Asn Asn Gln Lys Leu Pro Val Arg Leu Val Ser Tyr Ser
165 170 175
Pro Val Pro Glu Asp His Ala Tyr Ile Arg Phe Pro Val Ser Asp Gly
180 185 190

Thr Gln Glu Leu Lys Ile Val Ser Ser Thr Gln Ile Asp Asp Gly Glu
195 200 205
Glu Thr Asn Tyr Asp Tyr Thr Lys Leu Val Phe Ala Lys Pro Ile Tyr
210 215 220
Asn Asp Pro Ser Leu Val Lys Ser Asp Thr Asn Asp Ala Val Val Thr
225 230 235 240
Asn Asp Gln Ser Ser Ser Val Ala Ser Asn Gln Thr Asn Thr Asn Thr
245 250 255
Ser Asn Gln Asn Asn Thr Ser Thr Ile Asn Asn Ala Asn Asn Gln Pro Gln
260 265 270
Ala Thr Thr Asn Met Ser Gln Pro Ala Gln Pro Lys Ser Ser Thr Asn
275 280 285
Ala Asp Gln Ala Ser Ser Gln Pro Ala His Glu Thr Asn Ser Asn Gly
290 295 300
Asn Thr Asn Asp Lys Thr Asn Glu Ser Ser Asn Gln Ser Asp Val Asn
305 310 315 320
Gln Gln Tyr Pro Pro Ala Asp Glu Ser Leu Gln Asp Ala Ile Lys Asn
325 330 335
Pro Ala Ile Ile Asp Lys Glu His Thr Ala Asp Asn Trp Arg Pro Ile
340 345 350
Asp Phe Gln Met Lys Asn Asp Lys Gly Glu Arg Gln Phe Tyr His Tyr
355 360 365
Ala Ser Thr Val Glu Pro Ala Thr Val Ile Phe Thr Lys Thr Gly Pro
370 375 380
Ile Ile Glu Leu Gly Leu Lys Thr Ala Ser Thr Trp Lys Lys Phe Glu
385 390 395 400
Val Tyr Glu Gly Asp Lys Lys Leu Pro Val Glu Leu Val Ser Tyr Asp
405 410 415
Ser Asp Lys Asp Tyr Ala Tyr Ile Arg Phe Pro Val Ser Asn Gly Thr
420 425 430
Arg Glu Val Lys Ile Val Ser Ser Ile Glu Tyr Gly Glu Asn Ile His
435 440 445
Glu Asp Tyr Asp Tyr Thr Leu Met Val Phe Ala Gln Pro Ile Thr Asn
450 455 460
Asn Pro Asp Asp Tyr Val Asp Glu Glu Thr Tyr Asn Leu Gln Lys Leu
465 470 475 480
Leu Ala Pro Tyr His Lys Ala Lys Thr Leu Glu Arg Gln Val Tyr Glu
485 490 495
Leu Glu Lys Leu Gln Glu Lys Leu Pro Glu Lys Tyr Lys Ala Glu Tyr
500 505 510
Lys Lys Lys Leu Asp Gln Thr Arg Val Glu Leu Ala Asp Gln Val Lys
515 520 525
Ser Ala Val Thr Glu Phe Glu Asn Val Thr Pro Thr Asn Asp Gln Leu
530 535 540
Thr Asp Leu Gln Glu Ala His Phe Val Val Phe Glu Ser Glu Glu Asn
545 550 555 560
Ser Glu Ser Val Met Asp Gly Phe Val Glu His Pro Phe Tyr Thr Ala
565 570 575
Thr Leu Asn Gly Gln Lys Tyr Val Val Met Lys Thr Lys Asp Asp Ser
580 585 590
Tyr Trp Lys Asp Leu Ile Val Glu Gly Lys Arg Val Thr Thr Val Ser
595 600 605
Lys Asp Pro Lys Asn Asn Ser Arg Thr Leu Ile Phe Pro Tyr Ile Pro
610 615 620
Asp Lys Ala Val Tyr Asn Ala Ile Val Lys Val Val Val Ala Asn Ile
625 630 635 640
Gly Tyr Glu Gly Gln Tyr His Val Arg Ile Ile Asn Gln Asp Ile Asn

645	650	655
Thr Lys Asp Asp Asp Thr Ser Gln Asn Asn Thr Ser Glu Pro Leu Asn		
660	665	670
Val Gln Thr Gly Gln Glu Gly Lys Val Ala Asp Thr Asp Val Ala Glu		
675	680	685
Asn Ser Ser Thr Ala Thr Asn Pro Lys Asp Ala Ser Asp Lys Ala Asp		
690	695	700
Val Ile Glu Pro Glu Ser Asp Val Val Lys Asp Ala Asp Asn Asn Ile		
705	710	715
Asp Lys Asp Val Gln His Asp Val Asp His Leu Ser Asp Met Ser Asp		
725	730	735
Asn Asn His Phe Asp Lys Tyr Asp Leu Lys Glu Met Asp Thr Gln Ile		
740	745	750
Ala Lys Asp Thr Asp Arg Asn Val Asp Lys Asp Ala Asp Asn Ser Val		
755	760	765
Gly Met Ser Ser Asn Val Asp Thr Asp Lys Asp Ser Asn Lys Asn Lys		
770	775	780
Asp Lys Val Ile Gln Leu Asn His Ile Ala Asp Lys Asn Asn His Thr		
785	790	795
Gly Lys Ala Ala Lys Leu Asp Val Val Lys Gln Asn Tyr Asn Asn Thr		
805	810	815
Asp Lys Val Thr Asp Lys Thr Thr Glu His Leu Pro Ser Asp Ile		
820	825	830
His Lys Thr Val Asp Lys Thr Val Lys Thr Lys Glu Lys Ala Gly Thr		
835	840	845
Pro Ser Lys Glu Asn Lys Leu Ser Gln Ser Lys Met Leu Pro Lys Thr		
850	855	860
Gly Glu Thr Thr Ser Ser Gln Ser Trp Trp Gly Leu Tyr Ala Leu Leu		
865	870	875
Gly Met Leu Ala Leu Phe Ile Pro Lys Phe Arg Lys Glu Ser Lys		
885	890	895

<210> 2
<211> 645
<212> PRT
<213> Staphylococcus aureus

<400> 2

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20	25	30
Met Ser Asn Gly Glu Ala Gln Ala Ala Glu Glu Thr Gly Gly Thr		
35	40	45
Asn Thr Glu Ala Gln Pro Lys Thr Glu Ala Val Ala Ser Pro Thr Thr		
50	55	60
Thr Ser Glu Lys Ala Pro Glu Thr Lys Pro Val Ala Asn Ala Val Ser		
65	70	75
80		
Val Ser Asn Lys Glu Val Glu Ala Pro Thr Ser Glu Thr Lys Glu Ala		
85	90	95
Lys Glu Val Lys Glu Val Lys Ala Pro Lys Glu Thr Lys Glu Val Lys		
100	105	110
Pro Ala Ala Lys Ala Thr Asn Asn Thr Tyr Pro Ile Leu Asn Gln Glu		
115	120	125
Leu Arg Glu Ala Ile Lys Asn Pro Ala Ile Lys Asp Lys Asp His Ser		
130	135	140

Ala Pro Asn Ser Arg Pro Ile Asp Phe Glu Met Lys Lys Lys Asp Gly
145 150 155 160
Thr Gln Gln Phe Tyr His Tyr Ala Ser Ser Val Lys Pro Ala Arg Val
165 170 175
Ile Phe Thr Asp Ser Lys Pro Glu Ile Glu Leu Gly Leu Gln Ser Gly
180 185 190
Gln Phe Trp Arg Lys Phe Glu Val Tyr Glu Gly Asp Lys Lys Leu Pro
195 200 205
Ile Lys Leu Val Ser Tyr Asp Thr Val Lys Asp Tyr Ala Tyr Ile Arg
210 215 220
Phe Ser Val Ser Asn Gly Thr Lys Ala Val Lys Ile Val Ser Ser Thr
225 230 235 240
His Phe Asn Asn Lys Glu Glu Lys Tyr Asp Tyr Thr Leu Met Glu Phe
245 250 255
Ala Gln Pro Ile Tyr Asn Ser Ala Asp Lys Phe Lys Thr Glu Glu Asp
260 265 270
Tyr Lys Ala Glu Lys Leu Leu Ala Pro Tyr Lys Lys Ala Lys Thr Leu
275 280 285
Glu Arg Gln Val Tyr Glu Leu Asn Lys Ile Gln Asp Lys Leu Pro Glu
290 295 300
Lys Leu Lys Ala Glu Tyr Lys Lys Leu Glu Asp Thr Lys Lys Ala
305 310 315 320
Leu Asp Glu Gln Val Lys Ser Ala Ile Thr Glu Phe Gln Asn Val Gln
325 330 335
Pro Thr Asn Glu Lys Met Thr Asp Leu Gln Asp Thr Lys Tyr Val Val
340 345 350
Tyr Glu Ser Val Glu Asn Asn Glu Ser Met Met Asp Thr Phe Val Lys
355 360 365
His Pro Ile Lys Thr Gly Met Leu Asn Gly Lys Lys Tyr Met Val Met
370 375 380
Glu Thr Thr Asn Asp Asp Tyr Trp Lys Asp Phe Met Val Glu Gly Gln
385 390 395 400
Arg Val Arg Thr Ile Ser Lys Asp Ala Lys Asn Asn Thr Arg Thr Ile
405 410 415
Ile Phe Pro Tyr Val Glu Gly Lys Thr Leu Tyr Asp Ala Ile Val Lys
420 425 430
Val His Val Lys Thr Ile Asp Tyr Asp Gly Gln Tyr His Val Arg Ile
435 440 445
Val Asp Lys Glu Ala Phe Thr Lys Ala Asn Thr Asp Lys Ser Asn Lys
450 455 460
Lys Glu Gln Gln Asp Asn Ser Ala Lys Lys Glu Ala Thr Pro Ala Thr
465 470 475 480
Pro Ser Lys Pro Thr Pro Ser Pro Val Glu Lys Glu Ser Gln Lys Gln
485 490 495
Asp Ser Gln Lys Asp Asp Asn Lys Gln Leu Pro Ser Val Glu Lys Glu
500 505 510
Asn Asp Ala Ser Ser Glu Ser Gly Lys Asp Lys Thr Pro Ala Thr Lys
515 520 525
Pro Thr Lys Gly Glu Val Glu Ser Ser Ser Thr Thr Pro Thr Lys Val
530 535 540
Val Ser Thr Thr Gln Asn Val Ala Lys Pro Thr Thr Ala Ser Ser Lys
545 550 555 560
Thr Thr Lys Asp Val Val Gln Thr Ser Ala Gly Ser Ser Glu Ala Lys
565 570 575
Asp Ser Ala Pro Leu Gln Lys Ala Asn Ile Lys Asn Thr Asn Asp Gly
580 585 590
His Thr Gln Ser Gln Asn Asn Lys Asn Thr Gln Glu Asn Lys Ala Lys

595	600	605
Ser Leu Pro Gln Thr Gly Glu Glu Ser Asn Lys Asp Met Thr Leu Pro		
610	615	620
Leu Met Ala Leu Leu Ala Leu Ser Ser Ile Val Ala Phe Val Leu Pro		
625	630	635
Arg Lys Arg Lys Asn		640
	645	

<210> 3
<211> 649
<212> PRT
<213> Staphylococcus aureus

<400> 3		
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20	25	30
Met Ser Asn Gly Glu Ala Gln Ala Ala Ala Glu Glu Thr Gly Gly Thr		
35	40	45
Asn Thr Glu Ala Gln Pro Lys Thr Glu Ala Val Ala Ser Pro Thr Thr		
50	55	60
Thr Ser Glu Lys Ala Pro Glu Thr Lys Pro Val Ala Asn Ala Val Ser		
65	70	75
		80
Val Ser Asn Lys Glu Val Ala Pro Thr Ser Glu Thr Lys Glu Ala		
85	90	95
Lys Glu Val Lys Glu Val Lys Ala Pro Lys Glu Thr Lys Glu Val Lys		
100	105	110
Pro Ala Ala Lys Ala Thr Asn Asn Thr Tyr Pro Ile Leu Asn Gln Glu		
115	120	125
Leu Arg Glu Ala Ile Lys Asn Pro Ala Ile Lys Asp Lys Asp His Ser		
130	135	140
Ala Pro Asn Ser Arg Pro Ile Asp Phe Glu Met Lys Lys Lys Asp Gly		
145	150	155
		160
Thr Gln Gln Phe Tyr His Tyr Ala Ser Ser Val Lys Pro Ala Arg Val		
165	170	175
Ile Phe Thr Asp Ser Lys Pro Glu Ile Glu Leu Gly Leu Gln Ser Gly		
180	185	190
Gln Phe Trp Arg Lys Phe Glu Val Tyr Glu Gly Asp Lys Lys Leu Pro		
195	200	205
Ile Lys Leu Val Ser Tyr Asp Thr Val Lys Asp Tyr Ala Tyr Ile Arg		
210	215	220
Phe Ser Val Ser Asn Gly Thr Lys Ala Val Lys Ile Val Ser Ser Thr		
225	230	235
		240
His Phe Asn Asn Lys Glu Glu Lys Tyr Asp Tyr Thr Leu Met Glu Phe		
245	250	255
Ala Gln Pro Ile Tyr Asn Ser Ala Asp Lys Phe Lys Thr Glu Glu Asp		
260	265	270
Tyr Lys Ala Glu Lys Leu Leu Ala Pro Tyr Lys Lys Ala Lys Thr Leu		
275	280	285
Glu Arg Gln Val Tyr Glu Leu Asn Lys Ile Gln Asp Lys Leu Pro Glu		
290	295	300
Lys Leu Lys Ala Glu Tyr Lys Lys Leu Glu Asp Thr Lys Lys Ala		
305	310	315
		320
Leu Asp Glu Gln Val Lys Ser Ala Ile Thr Glu Phe Gln Asn Val Gln		
325	330	335

Pro Thr Asn Glu Lys Met Thr Asp Leu Gln Asp Thr Lys Tyr Val Val
340 345 350
Tyr Glu Ser Val Glu Asn Asn Glu Ser Met Met Asp Thr Phe Val Lys
355 360 365
His Pro Ile Lys Thr Gly Met Leu Asn Gly Lys Lys Tyr Met Val Met
370 375 380
Glu Thr Thr Asn Asp Asp Tyr Trp Lys Asp Phe Met Val Glu Gly Gln
385 390 395 400
Arg Val Arg Thr Ile Ser Lys Asp Ala Lys Asn Asn Thr Arg Thr Ile
405 410 415
Ile Phe Pro Tyr Val Glu Gly Lys Thr Leu Tyr Asp Ala Ile Val Lys
420 425 430
Val His Val Lys Thr Ile Asp Tyr Asp Gly Gln Tyr His Val Arg Ile
435 440 445
Val Asp Lys Glu Ala Phe Thr Lys Ala Asn Thr Asp Lys Ser Asn Lys
450 455 460
Lys Glu Gln Gln Asp Asn Ser Ala Lys Lys Glu Ala Thr Pro Ala Thr
465 470 475 480
Pro Ser Lys Pro Thr Pro Ser Pro Val Glu Lys Glu Ser Gln Lys Gln
485 490 495
Asp Ser Gln Lys Asp Asp Asn Lys Gln Leu Pro Ser Val Glu Lys Glu
500 505 510
Asn Asp Ala Ser Ser Glu Ser Gly Lys Asp Lys Thr Pro Ala Thr Lys
515 520 525
Pro Thr Lys Gly Lys Val Glu Ser Ser Ser Thr Thr Pro Thr Lys Val
530 535 540
Val Ser Thr Thr Gln Asn Val Ala Lys Pro Thr Thr Ala Ser Ser Lys
545 550 555